

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number
WO 2005/059902 A2

(51) International Patent Classification⁷: **G11B**

(21) International Application Number:
PCT/US2004/041793

(22) International Filing Date:
10 December 2004 (10.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/529,013 12 December 2003 (12.12.2003) US

(71) Applicant (for all designated States except US): **APRILIS, INC.** [US/US]; Suite 200, 5 Clock Tower Place, Maynard, MA 01754 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **RAGUIN, Daniel, H.** [US/US]; 234 Newtown Road, Acton, MA 01720 (US).

(74) Agent: **LUKACHER, Kenneth, J.**; South Winton Court, Suite 204, 3136 Winton Road South, Rochester, NY 14623 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

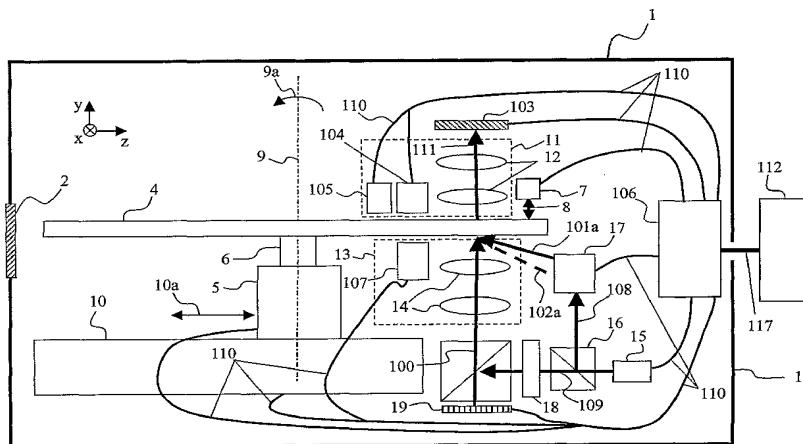
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHODS AND APPARATUS FOR THE FIXING OF HOLOGRAPHIC MEDIA IN HOLOGRAPHIC DATA STORAGE SYSTEMS



(57) Abstract: Holographic data storage systems are fixed after exposure during which data in the form of holograms are stored at locations in the medium (4). Sufficient fixing energy in the form of light or other electromagnetic and thermal radiation is applied to the media (4) either by flooding the media, or to specific locations where the medium has been written. The energy is sufficient to expose the recorded medium (4) to prevent recording in the unused dynamic range thereof. Such recording can be a spurious recording made during readout or from spurious sources of light incident on the media. In one embodiment, the reference beam (108) produced in the course of holographic recording is redirected to locations on the media (4) which have already been recorded. The redirected beam post exposes the media to fix these locations against spurious recording. The integrity of the holographic data storage systems and the robustness thereof is improved by fixing methods and apparatus incorporating the invention.

WO 2005/059902 A2